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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/691,150	10/22/2003	Huan-sheng Hwang	9314-49	6598
54414 7590 03/03/2009 MYERS BIGEL SIBLEY & SAJOVEC, P.A. P.O. BOX 37428 RALEIGH, NC 27627				
EXAMINER				
A. MINH D				
ART UNIT		PAPER NUMBER		
2821				
MAIL DATE		DELIVERY MODE		
03/03/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/691,150

**Applicant(s)**

HWANG ET AL.

**Examiner**

MINH D. A

**Art Unit**

2821

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12/15/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 17, 18 and 20-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17, 18 and 20-38 is/are allowed.
- 6) ☒ Claim(s) 39-41 is/are rejected.
- 7) ☒ Claim(s) 42 and 43 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date 1/28/09
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Applicant's arguments see Remarks, filed on 12/15/08, with respect to claims 17-18, 39-43 have been fully considered and are persuasive. The rejections of claims 17-18 and 39-43 have been withdrawn. Thus, claims 17-18, 39-43 are currently presented in the instant application.

***Claim Rejections - 35 USC § 102***

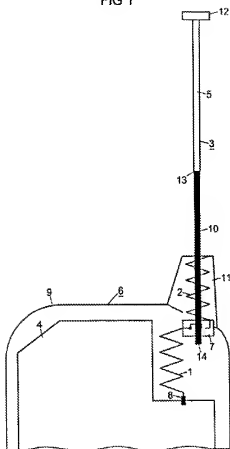
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 39-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Scholz (U.S Patent No: 6,212,400).

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Regarding claim 39, Scholz shows in figure 1 and 2, a mobile terminal(6), comprising: a frame(9), a radio communication circuit(4)(col.3, lines 1-6) supported by the frame(9); an antenna(1-3) electrically coupled to the radio communication circuit (4), attached to the frame (9) and comprising commonly fed conductor loop(1) and monopole (3,10) and helical element (2), wherein the monopole(3,10) is positioned within the helical element(2) along an axis of the helical element(2), all arranged as claimed. The helix antenna or spiral antenna (1) is a conductor loop, the elements(1-3) are commonly fed via the connector element or antenna contact element(7),

alternatively, where elements (1 and 3) connected as shown in figure 1 and elements 1 and 2 connect, both by way of the commonly by fed connector(7)(col.3, lines 25-47).

Regarding claim 40, Scholz inherently discloses in figure 1, wherein the conductor loop (conductor (1)) has a reflective feature therein since the conductor loop is conductive or current can be drive it.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scholz (U.S. Patent No. 6,212,400) in view of Chiu (U.S. Patent No. 6,822,614).

Regarding claim 41, Scholz discloses all claimed of invention except for wherein the conductor loop (helix or helical) (1) comprising a rectangular conductor loop.

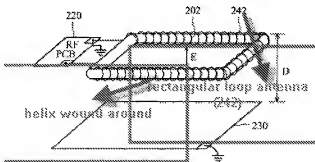


FIG. 9

Chiu discloses figure 9 above that, wherein the conductor loop (helix or helical) () comprising a rectangular conductor loop.

It would have been obvious to one having ordinary skill in the art to include the rectangular loop disclosed in the loop antenna of Chiu in the antenna device for mobile radio telephone device of Schlz to achieve the claimed invention. As disclosed in Chiu, the motivation for the combination would be to improve radiation efficiency.

***Allowable Subject Matter***

6. Claims 17-18, 20-38 are allowed.
7. Claims 42-43 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Prior art of record does not teach that, a ground plane supported by the frame, and wherein the conductor loop element is positioned overlying the ground plane (claim 43 is allowable since it is dependent on claim 42).

Prior art of record does not teach that, a conductor loop support by the frame and overlying the ground plane and wherein the monopole support by the frame and extending off the ground plane from the a location overlying ground plane and wherein the monopole supported and the conductor loop are configured to be coupled to a common feed-point (1) in combination with all limitations recited in independent claim 20 (claims 21-38 would be allowed, since they are independent claim 20).

***Citation of relevant prior art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Woo (US 6,317,086) and Bowers et al (US 5,914,692) are cited to show a multiple loop antenna.

***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 AM-2:45 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas W can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Minh A

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Date 2/26/09

/Douglas W Owens/  
Supervisory Patent Examiner, Art Unit 2821  
February 28, 2009